

REMARKS

Claims 1-3 and 6 were rejected under 35 U.S.C. 112 as indefinite in respect to the term "molecular weight". The Examiner has alleged that the term includes both number average and weight average molecular weights, which would be different depending upon the polydispersity (Mw/Mn) of the polymer.

However, the copolymers in the composition of the invention are commercially available products which are fully described in trade literature with respect to molecular weight and pyrrolidone content. Furthermore, Agrimer AL 25, a preferred copolymer in Examples 1-18, was described in U.S. Pat. 6,303,131 col. 6, lines 65-67 as a copolymer of vinylpyrrolidone and C₁₆ α -olefin in 50:50 weight ratio with a number average molecular weight of about 9500; and AL 30 with an 8600; and AL 22 with a 7300 number average molecular weight.

In order to reduce the issue herein, Applicant has amended claims 1-3 to delete the molecular weight and melting point of the copolymer, as per issued process claims of patent 6,624,242.

Reconsideration is requested.

Claim 15 has not been rejected as indefinite.

Claims 1-3 were rejected under 35 U.S.C. 102(e) or 103 (a) on Nara U.S. Pat. 6,303,131. The Examiner has alleged that Nara discloses an aqueous system including a particulate alkylated vinyl pyrrolidone with a pyrrolidone content of > 10% and an anionic emulsifier. Table 1 teaches that a single phase system is present. The particulate solid also is disclosed.

Applicant respectfully traverses the Examiner's rejection of claims 1-3 on Nara ('131), who is incidentally the named applicant in this invention.

The prior Nara patent was directed to a stable microemulsion which is a single phase system of a water-insoluble film-forming polymer, e.g. Agrimer® AL 25 copolymer of vinyl pyrrolidone and C₁₆ α -olefin in a 50:50 weight ratio; an anionic emulsifier e.g.

sodium dodecylsulfate (SDS); and N-octyl pyrrolidone (LP-100), which is present in an amount of 42.96 to 48.33 wt. % of the composition. The presence of such large amounts of co-emulsifier LP-100 in the prior formulation is necessary to form the desired single phase microemulsion.

In contrast, in this invention, the claimed composition is an aqueous dispersion (not a single phase system) in which the polymer is suspended in an anionic emulsifier, in the absence of any co-emulsifier such as LP-100. The dispersion of the invention is defined particularly by the particle size of the resultant polymer being < 10 microns, preferably < 5-6 microns (see Examples) and, most preferably, 0.1-2 microns (claim 2 amended, and page 3, line 11), and a suitable polymeric anionic emulsifier, preferably lignin sulfonate, neutralized methyl vinyl ether-maleic acid half-ester or polyacrylic acid with > 10% acrylic acid, or salts thereof, and mixtures thereof (claim 15). The resultant aqueous dispersion of the invention can be readily formulated with an active ingredient such as agriculturally active chemical to provide rainfast seed coatings.

Accordingly, the claims herein have been amended to specifically recite that the dispersion composition "consists essentially of" the named components, thus excluding N-octyl pyrrolidone (LP-100) from the invention composition, for the reason that it would transform the desired aqueous dispersion (a two-phase system) into a microemulsion (a one-phase system) which is detrimental to the concept and practice of this invention.

Reconsideration is respectfully solicited.

Claims 1-3 were rejected under 35 U.S.C. 103(a) on Nara '131. For the reasons stated in detail above, Applicant respectfully maintains that in this invention the smallest particle size in the prior single phase system is not desired herein. Rather a dispersion of copolymer particles of defined size is necessary for a suitable dispersion of the copolymer. Reconsideration is requested.

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Claim 1-3, 6 and 15 were rejected under 103(a) on Nara "131 in view of Austgen and Carter. The Examiner has alleged that these references show sodium lauryl sulfate and lignin sulfate as emulsifiers. Applicant respectfully traverses the rejection on the combination of these references.

Applicant respectfully wishes to point out that the invention consists essentially of the combination of named components in defined amounts and physical parameters which is not shown or described in any of the references, either singly or in combination. The specification herein teaches that many different anionic emulsifiers may be used in the invention combination; however polymeric emulsifiers, e.g. lignin sulfonate and neutralized methyl vinyl ether-maleic acid half-ester and polyacrylic acid are described as preferred emulsifiers (claims 1-3 and 15 and specification examples, which are not mentioned in the secondary references for use in the composition of this invention).

Reconsideration is requested.

In view of the foregoing, the claims as amended are believed to define patentable invention over the cited art. Accordingly, reconsideration and early allowance of the claims as amended is respectfully solicited.

Respectfully submitted,



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